



IFW16

RAW SEQUENCE LISTING

DATE: 08/19/2004

PATENT APPLICATION: US/10/031,905

TIME: 11:40:52

Input Set : A:\PF-0721-PCT (sequence listing).txt

Output Set: N:\CRF4\08192004\J031905.raw

2 <110> APPLICANT: INCYTE GENOMICS, INC.
 3 TANG, Y. Tom
 4 HILLMAN, Jennifer L.
 5 BANDMAN, Olga
 6 YUE, Henry
 7 BAUGHN, Mariah R.
 8 LAL, Preeti
 9 LU, Dyung Aina M.
 10 SHAH, Purvi
 11 AZIMZAI, Yalda
 W--> 12 <120> TITLE OF INVENTION: HUMAN SYNTHETASES
 W--> 13 <130> FILE REFERENCE: PF-0721 PCT
 W--> 14 <140> CURRENT APPLICATION NUMBER: To Be Assigned
 C--> 15 <141> CURRENT FILING DATE: 2002-01-18
 16 <150> PRIOR APPLICATION NUMBER: 60/144,992; 60,168,858
 W--> 17 <151> PRIOR FILING DATE: 1999-07-22; 1999-12-02
 W--> 18 <160> NUMBER OF SEQ ID: 30
 19 <170> SOFTWARE: PERL Program
 W--> 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 1176
 22 <212> TYPE: PRT
 23 <213> ORGANISM: Homo sapiens
 W--> 24 <220> FEATURE:
 25 <221> NAME/KEY: misc_feature
 26 <223> OTHER INFORMATION: Incyte ID No: 1806212CD1
 W--> 27 <400> SEQUENCE: 1
 28 Met Ala Glu Arg Lys Gly Thr Ala Lys Val Asp Phe Leu Lys Lys
 29 1 5 10 15
 30 Ile Glu Lys Glu Ile Gln Gln Lys Trp Asp Thr Glu Arg Val Phe
 31 20 25 30
 32 Glu Val Asn Ala Ser Asn Leu Glu Lys Gln Thr Ser Lys Gly Lys
 33 35 40 45
 34 Tyr Phe Val Thr Phe Pro Tyr Pro Tyr Met Asn Gly Arg Leu His
 35 50 55 60
 36 Leu Gly His Thr Phe Ser Leu Ser Lys Cys Glu Phe Ala Val Gly
 37 65 70 75
 38 Tyr Gln Arg Leu Lys Gly Lys Cys Cys Leu Phe Pro Phe Gly Leu
 39 80 85 90
 40 His Cys Thr Gly Met Pro Ile Lys Ala Cys Ala Asp Lys Leu Lys
 41 95 100 105
 42 Arg Glu Ile Glu Leu Tyr Gly Cys Pro Pro Asp Phe Pro Asp Glu
 43 110 115 120
 44 Glu Glu Glu Glu Glu Glu Thr Ser Val Lys Thr Glu Asp Ile Ile

ENTERED

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45		125		130		135
46	Ile Lys Asp Lys Ala Lys Gly Lys Lys		Ser Lys Ala Ala Ala Lys			
47		140		145		150
48	Ala Gly Ser Ser Lys Tyr Gln Trp Gly		Ile Met Lys Ser Leu Gly			
49		155		160		165
50	Leu Ser Asp Glu Glu Ile Val Lys Phe		Ser Glu Ala Glu His Trp			
51		170		175		180
52	Leu Asp Tyr Phe Pro Pro Leu Ala Ile		Gln Asp Leu Lys Arg Met			
53		185		190		195
54	Gly Leu Lys Val Asp Trp Arg Arg Ser		Phe Ile Thr Thr Asp Val			
55		200		205		210
56	Asn Pro Tyr Tyr Asp Ser Phe Val Arg		Trp Gln Phe Leu Thr Leu			
57		215		220		225
58	Arg Glu Arg Asn Lys Ile Lys Phe Gly		Lys Arg Tyr Thr Ile Tyr			
59		230		235		240
60	Ser Pro Lys Asp Gly Gln Pro Cys Met		Asp His Asp Arg Gln Thr			
61		245		250		255
62	Gly Glu Gly Val Gly Pro Gln Glu Tyr		Thr Leu Leu Lys Leu Lys			
63		260		265		270
64	Val Leu Glu Pro Tyr Pro Ser Lys Leu		Ser Gly Leu Lys Gly Lys			
65		275		280		285
66	Asn Ile Phe Leu Val Ala Ala Thr Leu		Arg Pro Glu Thr Met Phe			
67		290		295		300
68	Gly Gln Thr Asn Cys Trp Val Arg Pro		Asp Met Lys Tyr Ile Gly			
69		305		310		315
70	Phe Glu Thr Val Asn Gly Asp Ile Phe		Ile Cys Thr Gln Lys Ala			
71		320		325		330
72	Ala Arg Asn Met Ser Tyr Gln Gly Phe		Thr Lys Asp Asn Gly Val			
73		335		340		345
74	Val Pro Val Val Lys Glu Leu Met Gly		Glu Glu Ile Leu Gly Ala			
75		350		355		360
76	Ser Leu Ser Ala Pro Leu Thr Ser Tyr		Lys Val Ile Tyr Val Leu			
77		365		370		375
78	Pro Met Leu Thr Ile Lys Glu Asp Lys		Gly Thr Gly Val Val Thr			
79		380		385		390
80	Ser Val Pro Ser Asp Ser Pro Asp Asp		Ile Ala Ala Leu Arg Asp			
81		395		400		405
82	Leu Lys Lys Lys Gln Ala Leu Arg Ala		Lys Tyr Gly Ile Arg Asp			
83		410		415		420
84	Asp Met Val Leu Pro Phe Glu Pro Val		Pro Val Ile Glu Ile Pro			
85		425		430		435
86	Gly Phe Gly Asn Leu Ser Ala Val Thr		Ile Cys Asp Glu Leu Lys			
87		440		445		450
88	Ile Gln Ser Gln Asn Asp Arg Glu Lys		Leu Ala Glu Ala Lys Glu			
89		455		460		465
90	Lys Ile Tyr Leu Lys Gly Phe Tyr Glu		Gly Ile Met Leu Val Asp			
91		470		475		480
92	Gly Phe Lys Gly Gln Lys Val Gln Asp		Val Lys Lys Thr Ile Gln			
93		485		490		495

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94	Lys	Lys	Met	Ile	Asp	Ala	Gly	Asp	Ala	Leu	Ile	Tyr	Met	Glu	Pro
95					500					505					510
96	Glu	Lys	Gln	Val	Met	Ser	Arg	Ser	Ser	Asp	Glu	Cys	Val	Val	Ala
97					515					520					525
98	Leu	Cys	Asp	Gln	Trp	Tyr	Leu	Asp	Tyr	Gly	Glu	Glu	Asn	Trp	Lys
99					530					535					540
100	Lys	Gln	Thr	Ser	Gln	Cys	Leu	Lys	Asn	Leu	Glu	Thr	Phe	Cys	Glu
101					545					550					555
102	Glu	Thr	Arg	Arg	Asn	Phe	Glu	Ala	Thr	Leu	Gly	Trp	Leu	Gln	Glu
103					560					565					570
104	His	Ala	Cys	Ser	Arg	Thr	Tyr	Gly	Leu	Gly	Thr	His	Leu	Pro	Trp
105					575					580					585
106	Asp	Glu	Gln	Trp	Leu	Ile	Glu	Ser	Leu	Ser	Asp	Ser	Thr	Ile	Tyr
107					590					595					600
108	Met	Ala	Phe	Tyr	Thr	Val	Ala	His	Leu	Leu	Gln	Gly	Gly	Asn	Leu
109					605					610					615
110	His	Gly	Gln	Ala	Glu	Ser	Pro	Leu	Gly	Ile	Arg	Pro	Gln	Gln	Met
111					620					625					630
112	Thr	Lys	Glu	Val	Trp	Asp	Tyr	Val	Phe	Phe	Lys	Glu	Ala	Pro	Phe
113					635					640					645
114	Pro	Lys	Thr	Gln	Ile	Ala	Lys	Glu	Lys	Leu	Asp	Gln	Leu	Lys	Gln
115					650					655					660
116	Glu	Phe	Glu	Phe	Trp	Tyr	Pro	Val	Asp	Leu	Arg	Val	Ser	Gly	Lys
117					665					670					675
118	Asp	Leu	Val	Pro	Asn	His	Leu	Ser	Tyr	Tyr	Leu	Tyr	Asn	His	Val
119					680					685					690
120	Ala	Met	Trp	Pro	Glu	Gln	Ser	Asp	Lys	Trp	Pro	Thr	Ala	Val	Arg
121					695					700					705
122	Ala	Asn	Gly	His	Leu	Leu	Leu	Asn	Ser	Glu	Lys	Met	Ser	Lys	Ser
123					710					715					720
124	Thr	Gly	Asn	Phe	Leu	Thr	Leu	Thr	Gln	Ala	Ile	Asp	Lys	Phe	Ser
125					725					730					735
126	Ala	Asp	Gly	Met	Arg	Leu	Ala	Leu	Ala	Asp	Ala	Gly	Asp	Thr	Val
127					740					745					750
128	Glu	Asp	Ala	Asn	Phe	Val	Glu	Ala	Met	Ala	Asp	Ala	Gly	Ile	Leu
129					755					760					765
130	Arg	Leu	Tyr	Thr	Trp	Val	Glu	Trp	Val	Lys	Glu	Met	Val	Ala	Asn
131					770					775					780
132	Trp	Asp	Ser	Leu	Arg	Ser	Gly	Pro	Ala	Ser	Thr	Phe	Asn	Asp	Arg
133					785					790					795
134	Val	Phe	Ala	Ser	Glu	Leu	Asn	Ala	Gly	Ile	Ile	Lys	Thr	Asp	Gln
135					800					805					810
136	Asn	Tyr	Glu	Lys	Met	Met	Phe	Lys	Glu	Ala	Leu	Lys	Thr	Gly	Phe
137					815					820					825
138	Phe	Glu	Phe	Gln	Ala	Ala	Lys	Asp	Lys	Tyr	Arg	Glu	Leu	Ala	Val
139					830					835					840
140	Glu	Gly	Met	His	Arg	Glu	Leu	Val	Phe	Arg	Phe	Ile	Glu	Val	Gln
141					845					850					855
142	Thr	Leu	Leu	Leu	Ala	Pro	Phe	Cys	Pro	His	Leu	Cys	Glu	His	Ile

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```

143      860      865      870
144 Trp Thr Leu Leu Gly Lys Pro Asp Ser Ile Met Asn Ala Ser Trp
145      875      880      885
146 Pro Val Ala Gly Pro Val Asn Glu Val Leu Ile His Ser Ser Gln
147      890      895      900
148 Tyr Leu Met Glu Val Thr His Asp Leu Arg Leu Arg Leu Lys Asn
149      905      910      915
150 Tyr Met Met Pro Ala Lys Gly Lys Lys Thr Asp Lys Gln Pro Leu
151      920      925      930
152 Gln Lys Pro Ser His Cys Thr Ile Tyr Val Ala Lys Asn Tyr Pro
153      935      940      945
154 Pro Trp Gln His Thr Thr Leu Ser Val Leu Arg Lys His Phe Glu
155      950      955      960
156 Ala Asn Asn Gly Lys Leu Pro Asp Asn Lys Val Ile Ala Ser Glu
157      965      970      975
158 Leu Gly Ser Met Pro Glu Leu Lys Lys Tyr Met Lys Lys Val Met
159      980      985      990
160 Pro Phe Val Ala Met Ile Lys Glu Asn Leu Glu Lys Met Gly Pro
161      995     1000     1005
162 Arg Ile Leu Asp Leu Gln Leu Glu Phe Asp Glu Lys Ala Val Leu
163     1010     1015     1020
164 Met Glu Asn Ile Val Tyr Leu Thr Asn Ser Leu Glu Leu Glu His
165     1025     1030     1035
166 Ile Glu Val Lys Phe Ala Ser Glu Ala Glu Asp Lys Ile Arg Glu
167     1040     1045     1050
168 Asp Cys Cys Pro Gly Lys Pro Leu Asn Val Phe Arg Ile Glu Pro
169     1055     1060     1065
170 Gly Val Ser Val Ser Leu Val Asn Pro Gln Pro Ser Asn Gly His
171     1070     1075     1080
172 Phe Ser Thr Lys Ile Glu Ile Arg Gln Gly Asp Asn Cys Asp Ser
173     1085     1090     1095
174 Ile Ile Arg Arg Leu Met Lys Met Asn Arg Gly Ile Lys Asp Leu
175     1100     1105     1110
176 Ser Lys Val Lys Leu Met Arg Phe Asp Asp Pro Leu Leu Gly Pro
177     1115     1120     1125
178 Arg Arg Val Pro Val Leu Gly Lys Glu Tyr Thr Glu Lys Thr Pro
179     1130     1135     1140
180 Ile Ser Glu His Ala Val Phe Asn Val Asp Leu Met Ser Lys Lys
181     1145     1150     1155
182 Ile His Leu Thr Glu Asn Gly Ile Arg Val Asp Ile Gly Asp Thr
183     1160     1165     1170
184 Ile Ile Tyr Leu Val His
185     1175
186 <210> SEQ ID NO: 2
187 <211> LENGTH: 739
188 <212> TYPE: PRT
189 <213> ORGANISM: Homo sapiens
W--> 190 <220> FEATURE:
191 <221> NAME/KEY: misc_feature

```

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192 <223> OTHER INFORMATION: Incyte ID No: 2083883CD1

W--> 193 <400> SEQUENCE: 2

```

194 Met Asp Ala Leu Lys Pro Pro Cys Leu Trp Arg Asn His Glu Arg
195   1           5           10           15
196 Gly Lys Lys Asp Arg Asp Ser Cys Gly Arg Lys Asn Ser Glu Pro
197           20           25           30
198 Gly Ser Pro His Ser Leu Glu Ala Leu Arg Asp Ala Ala Pro Ser
199           35           40           45
200 Gln Gly Leu Asn Phe Leu Leu Leu Phe Thr Lys Met Leu Phe Ile
201           50           55           60
202 Phe Asn Phe Leu Phe Ser Pro Leu Pro Thr Pro Ala Leu Ile Cys
203           65           70           75
204 Ile Leu Thr Phe Gly Ala Ala Ile Phe Leu Trp Leu Ile Thr Arg
205           80           85           90
206 Pro Gln Pro Val Leu Pro Leu Leu Asp Leu Asn Asn Gln Ser Val
207           95          100          105
208 Gly Ile Glu Gly Gly Ala Arg Lys Gly Val Ser Gln Lys Asn Asn
209          110          115          120
210 Asp Leu Thr Ser Cys Cys Phe Ser Asp Ala Lys Thr Met Tyr Glu
211          125          130          135
212 Val Phe Gln Arg Gly Leu Ala Val Ser Asp Asn Gly Pro Cys Leu
213          140          145          150
214 Gly Tyr Arg Lys Pro Asn Gln Pro Tyr Arg Trp Leu Ser Tyr Lys
215          155          160          165
216 Gln Val Ser Asp Arg Ala Glu Tyr Leu Gly Ser Cys Leu Leu His
217          170          175          180
218 Lys Gly Tyr Lys Ser Ser Pro Asp Gln Phe Val Gly Ile Phe Ala
219          185          190          195
220 Gln Asn Arg Pro Glu Trp Ile Ile Ser Glu Leu Ala Cys Tyr Thr
221          200          205          210
222 Tyr Ser Met Val Ala Val Pro Leu Tyr Asp Thr Leu Gly Pro Glu
223          215          220          225
224 Ala Ile Val His Ile Val Asn Lys Ala Asp Ile Ala Val Val Ile
225          230          235          240
226 Cys Asp Thr Pro Gln Lys Ala Leu Val Leu Ile Gly Asn Val Glu
227          245          250          255
228 Lys Gly Phe Thr Pro Ser Leu Lys Val Ile Ile Leu Met Asp Pro
229          260          265          270
230 Phe Asp Asp Asp Leu Lys Gln Arg Gly Glu Lys Ser Gly Ile Glu
231          275          280          285
232 Ile Leu Ser Leu Tyr Asp Ala Glu Asn Leu Gly Lys Glu His Phe
233          290          295          300
234 Arg Lys Pro Val Pro Pro Ser Pro Glu Asp Leu Ser Val Ile Cys
235          305          310          315
236 Phe Thr Ser Gly Thr Thr Gly Asp Pro Lys Gly Ala Met Ile Thr
237          320          325          330
238 His Gln Asn Ile Val Ser Asn Ala Ala Ala Phe Leu Lys Cys Val
239          335          340          345
240 Glu His Ala Tyr Glu Pro Thr Pro Asp Asp Val Ala Ile Ser Tyr

```

RAW SEQUENCE LISTING ERROR SUMMARY
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:12; Xaa Pos. 63,64,65

Seq#:27; N Pos. 193,196,197,198

VERIFICATION SUMMARY

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L:12 M:283 W: Missing Blank Line separator, <120> field identifier
L:13 M:283 W: Missing Blank Line separator, <130> field identifier
L:14 M:283 W: Missing Blank Line separator, <140> field identifier
L:14 M:270 C: Current Application Number differs, Replaced Current Application Number
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:17 M:256 W: Invalid Numeric Header Field, Wrong Prior FILING DATE:YYYY-MM-DD
L:18 M:283 W: Missing Blank Line separator, <160> field identifier
L:20 M:283 W: Missing Blank Line separator, <210> field identifier
L:24 M:283 W: Missing Blank Line separator, <220> field identifier
L:27 M:283 W: Missing Blank Line separator, <400> field identifier
L:190 M:283 W: Missing Blank Line separator, <220> field identifier
L:193 M:283 W: Missing Blank Line separator, <400> field identifier
L:298 M:283 W: Missing Blank Line separator, <220> field identifier
L:301 M:283 W: Missing Blank Line separator, <400> field identifier
L:386 M:283 W: Missing Blank Line separator, <220> field identifier
L:389 M:283 W: Missing Blank Line separator, <400> field identifier
L:416 M:283 W: Missing Blank Line separator, <220> field identifier
L:419 M:283 W: Missing Blank Line separator, <400> field identifier
L:510 M:283 W: Missing Blank Line separator, <220> field identifier
L:513 M:283 W: Missing Blank Line separator, <400> field identifier
L:606 M:283 W: Missing Blank Line separator, <220> field identifier
L:609 M:283 W: Missing Blank Line separator, <400> field identifier
L:712 M:283 W: Missing Blank Line separator, <220> field identifier
L:715 M:283 W: Missing Blank Line separator, <400> field identifier
L:806 M:283 W: Missing Blank Line separator, <220> field identifier
L:809 M:283 W: Missing Blank Line separator, <400> field identifier
L:882 M:283 W: Missing Blank Line separator, <220> field identifier
L:885 M:283 W: Missing Blank Line separator, <400> field identifier
L:956 M:283 W: Missing Blank Line separator, <220> field identifier
L:959 M:283 W: Missing Blank Line separator, <400> field identifier
L:1000 M:283 W: Missing Blank Line separator, <220> field identifier
L:1003 M:283 W: Missing Blank Line separator, <220> field identifier
L:1007 M:283 W: Missing Blank Line separator, <400> field identifier
L:1016 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:60
L:1086 M:283 W: Missing Blank Line separator, <220> field identifier
L:1089 M:283 W: Missing Blank Line separator, <400> field identifier
L:1156 M:283 W: Missing Blank Line separator, <220> field identifier
L:1159 M:283 W: Missing Blank Line separator, <400> field identifier
L:1218 M:283 W: Missing Blank Line separator, <220> field identifier
L:1221 M:283 W: Missing Blank Line separator, <400> field identifier
L:1272 M:283 W: Missing Blank Line separator, <220> field identifier
L:1275 M:283 W: Missing Blank Line separator, <400> field identifier
L:1346 M:283 W: Missing Blank Line separator, <220> field identifier
L:1349 M:283 W: Missing Blank Line separator, <400> field identifier
L:1410 M:283 W: Missing Blank Line separator, <220> field identifier
L:1413 M:283 W: Missing Blank Line separator, <400> field identifier
L:1451 M:283 W: Missing Blank Line separator, <220> field identifier
L:1454 M:283 W: Missing Blank Line separator, <400> field identifier

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L:1495 M:283 W: Missing Blank Line separator, <220> field identifier
L:1498 M:283 W: Missing Blank Line separator, <400> field identifier
L:1543 M:283 W: Missing Blank Line separator, <220> field identifier
L:1546 M:283 W: Missing Blank Line separator, <400> field identifier
L:1587 M:283 W: Missing Blank Line separator, <220> field identifier
L:1590 M:283 W: Missing Blank Line separator, <400> field identifier
L:1801 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:180